Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of

Expanding Flexible Use of the 3.7 to 4.2 GHz Band	)	GN Docket No. 18-122
	)	
Expanding Flexible Use in Mid-Band Spectrum Between 3.7 and 24 GHz (Inquiry Terminated as to 3.3-4.2 GHz)	)	GN Docket No. 17-183
	)	
Petition for Rulemaking to Amend and Modernize Parts 25 and 101 of the Commission's Rules to Authorize and Facilitate the Deployment of Licensed Point-to-Multipoint Fixed Wireless Broadband Service in the 3.7-4.2 GHz Band)	)	RM-11791
	)	
Fixed Wireless Communications Coalition, Inc. Request for Modified Coordination Procedures in Band Shared Between the Fixed Service and the Fixed Satellite Service	)	RM-11778

FURTHER SUPPLEMENTAL COMMENTS OF PSSI GLOBAL

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SUMMARY

PSSI Global Services, LLC ("PSSI") here submits these Further Supplemental Comments in response to the Commission's July 19th Public Notice. In these Further Supplemental Comments, PSSI addresses specifically its concerns about the proposal by ACA Connects – America's Communications Association, the Competitive Carriers Association and Charter Communications, Inc. ("ACA Connects") referenced in the July 19th Public Notice, as well as certain technical assumptions contained in the AT&T Services, Inc. ("AT&T") proposal referenced in the Public Notice.

The ACA Connects proposal would make it impossible to continue transportable FSS service, a critical element for occasional use service ("OU") that is needed particularly for live events programming. It is based upon a lack of understanding of how the C-band is used in video programming production and distribution, as well as the amount of spectrum necessary to provide such services. ACA Connects claims that the C-band is inefficiently used. However, live, OU events like the Major League Baseball World Series and pay-per-view events on demand such as heavyweight title fights (WWE, UFC, etc.) not only require considerable amounts of spectrum for production, but also that PSSI keep quite a bit of spectrum available in reserve – even in those situations where C-band and fiber co-exist as alternative transmission systems.

The ACA Connects proposal is also wholly unrealistic when it comes to the timing in which the transition to fiber as a transmission medium could be accomplished. Clearance of 370 MHz of spectrum within 36 months in not credible, especially without large incentives (separate and apart, as noted in the previous section, from the enormous leap of faith that non-MVPD programming can even exist on only 130 MHz). The ACA Connects timetable ignores the practical legal and

construction issues that historically have long delayed fiber deployment.

The AT&T proposal would repurpose too much spectrum beyond 200 MHz. PSSI has repeatedly explained the difficulties for the video production and distribution system if current C-band operations must operate with less than 300 MHz of spectrum. AT&T's proposal depends on technical fixes to protect incumbent users of the C-band. The key to protection from both in-band and out-of-band interference are the filters being proposed for both 5G terrestrial operators and remaining FSS operators. However, as PSSI has explained, even if filters might work for permanently fixed FSS licensees, they have yet to prove effective in protecting transportable antennas, the backbone of OU production and distribution.

Finally, with respect to the Transition Administration, the Commission must ensure that management of the Administration includes representatives of the users of the C-band as well as satellite operators. C-band users have the best understanding of the video distribution and production system, so that their input is necessary to keep the system functioning, particularly during any repurpose and repacking process. Moreover, the Transition Administrator must be able to enforce at an initial level (with ultimate responsibility at the level of the Commission) issues such as interference protection, in addition to managing the repurposing of the C-band and relocation of incumbent C-band users.

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FURTHER SUPPLEMENTAL COMMENTS OF PSSI GLOBAL

PSSI GLOBAL SERVICES, L.L.C. ("PSSI") responds to the Commission's request that interested parties supplement the record in this proceeding and address specific questions posed by the Commission.[1]

A. Introduction

1. PSSI Global is the leading full-service satellite transmission company in the United States. PSSI has participated actively in this proceeding, noting aspects of the NPRM that it can support, as well as its concerns related to certain aspects of the proposals presented by the Commission and other parties to this proceeding.[2] In these Further Supplemental Comments, PSSI incorporates by reference its previous Comments and other filings.[3] Consistently, PSSI has stressed the importance of

[1] *Public Notice, Report No. DA 19-678,* released July 19, 2019 ("July 19th Public Notice"). These Further Supplemental Comments are timely filed.

[2] *In re Expanding Flexible Use of the 3.7 to 4.2 GHz Band in GN Docket No. 18-122* (Order and Notice of Proposed Rulemaking), 33 FCC Rcd 6915 (2018) (hereafter the "Notice" or the "NPRM").

[3] See PSSI's Initial Comments, filed October 30, 2018; Reply Comments filed December 12, 2018; Ex Parte Notice, dated December 18, 2012 (Office of Chairman Pai); Ex Parte Notice, dated December 18, 2012 (Office of Commissioners Rosenworcel); Ex Parte Notice dated February 22, 2019 (Office of Commissioner O'Rielly); Ex Parte Notice dated February 22, 2019 (Office of Commissioner Carr); Ex Parte Notice dated

the C-band – and specifically the importance of retaining the Commission's "full band/full arc" policies, which have heretofore contributed to the success of the video production and distribution system in the U.S.[4] -- and are necessary for its continuing success. Nothing matches the ubiquity and reliability of C-band for service quality and dependability. Although in a perfect world, PSSI would have supported the status quo in the C-band, it understands the Commission's concern that some portion of the C-band be repurposed for mobile terrestrial use. However, PSSI has also explained how repurposing of more spectrum than the 200 MHz proposed by the C-band Alliance ("CBA") poses serious challenges not only to PSSI, but also the video industry as a whole.[5]

2. In these Further Supplemental Comments, PSSI will address specifically its concerns about the proposal by ACA Connects – America's Communications Association, the Competitive Carriers Association and Charter Communications, Inc. ("ACA Connects") referenced in the July 19th Public Notice. The proposal by ACA Connects, in addition to being based upon a wholly unrealistic estimate of the time and effort to replace the C-band with fiber, would have a catastrophic impact on the video content distribution system that serves in excess of one hundred million American households by destroying the ability to provide the quality video programming that transportable companies like PSSI provide for live events coverage.

3. The AT&T Services, Inc. ("AT&T") proposal referenced in the Public Notice is based upon certain technical assumptions about antenna filtering that PSSI has previously alerted the Commission would not protect transportable C-band antennas. Moreover, by repurposing more than

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April 1, 2019 (Letter to Will Adams in Commissioner Carr's Office); Ex Parte Letter dated May 6, 2019 to Chairman and all Commissioners re interference concerns; Ex Parte Notice, dated May 9, 2019 (Office of Commissioner Starks); Ex Parte Notice, dated May 9, 2019 (Office of Commissioner Rosenworcel); Supplementary Comments, filed July 5, 2019.

[4] *See, e.g.,* PSSI Initial Comments at pp. 2-8.

[5] *See generally,* PSSI's Initial Comments; Reply Comments

200 MHz of the C-band spectrum, the AT&T proposal would also significantly limit the availability of occasional use of satellite transponders so critical to live events programming.

4. Further, the Commission must empower a Transition Administrator to deal with not only the repurposing and relocation of C-band users into the portion of the band retained for satellite use, but also give the Transition Administrator the ability to resolve problems such as signal interference.

B. ACA Connects Fails to Comprehend the Continued Importance of the C-band to Video Content Production and Distribution

5. In its previous filings, PSSI demonstrated why it would be difficult to continue business with anything more than 200 MHz taken away from current C-band uses. By contrast, the ACA Connects proposal would make it impossible to continue transportable FSS service, a critical element for occasional use service (OU) that is needed particularly for live events programming. In fact, the ACA Connects proposal is an existential threat to OU and, therefore, to the transportable firms like PSSI working in the C-band.

6. The assumption that 370 MHz of the C-band can be repurposed, leaving only 130 MHz for dedicated video downlink and OU reflects a fundamental misunderstanding of the video production and distribution business[6]. The C-band is already crowded and would become more so by cramming all remaining FSS use into the top 130 MHz of the band.

7. For example, ESPN programming is critically dependent upon C-band. As PSSI noted in its Initial Comments, PSSI Global provides ESPN with multiplexed C-band transmissions for their "at-home" productions of college football, basketball, and other athletic events. The football games, for

[6] This is understandable to a certain extent. As the Commission has noted, "the ACA Connects Coalition represents "incumbent C-band earth station users and wireless providers that seek to use this spectrum to provide 5G services." July 19th Public Notice, at p. 2. Although a cable operator, Charter is not a significant producer of video content. In other words, they neither represent programming concerns nor understand the dependence of programmers on the flexibility of the C-band."

example, require up to 10 channels of video with 4 audios on each channel distributed back from the game venue to ESPN headquarters in Bristol, Connecticut. ESPN produces the game at Bristol for broadcast. These games require, on average, 10 hours of C-band space segment, and the 10-channel transmissions utilizing 54 MHz of bandwidth. C-band transmission is required and preferred by our customers due to the possibility of rain both at origination and receive sites and the customers' experience over many years. For reasons including signal fade in times of inclement weather, the Ku-band is not a viable alternative because of its unreliability in such conditions[7].

8. This is not just the position advocated by PSSI. In recent comments filed in this docket, ESPN itself noted that rather than reduce its dependence upon C-band, "ESPN has seen C-band utilization increase year over year, with an additional 1,300 feeds provided to it over the C-band in 2017-18."[8]

9. Fiber alone cannot replace 370 MHz of the C-band, as ACA Connects insists. Although increasingly a part of the video distribution system, fiber is not a substitute. Fiber is inherently unstable – not even addressing the long lag time required for initial fiber deployment or enhancement, another shortcoming of the ACA Connects proposal, which PSSI addresses below. Appropriate redundancy and secure network design must be fully incorporated into any solution to avoid negatively affecting service quality to more than 100 million American homes, which requires C-

[7] The possibility of rain at live events makes dependence upon Ku-band transmission unfeasible, given the Ku-band's susceptibility to signal attenuation and rain fade (absorption of a microwave radio frequency (RF) signal by atmospheric rain, snow, or ice, and losses which are especially prevalent at frequencies above 11 GHz). It is also not physically possible to provide the high order modulation multi-path multiplexed solutions to our customers in the higher frequency Ku-band.

[8] Ex Parte letter dated June 7, 2019, from Matthew S. DelNero, Covington & Burling, counsel for CBS Corp., Discovery, Inc., The Walt Disney Company ("Disney"), Fox Corp., Univision Communications Inc., and Viacom Inc., at p. 2. Disney is ESPN's parent. In light of ESPN and Disney's clearly stated dependence upon the C-band, it is interesting to note that ACA Connects uses the Disney and ESPN logos in its presentation, as if they were somehow endorsing the taking of 370 MHz from the C-band. See, e.g., ACA Connects July 9th Cartesian Proposal Document, p. 8

band to continue to be part of the reliable video production and distribution system.

10. An example of the continued need for C-band is provided by a recent experience of PSSI. During the weekend of August 3-4, 2019, in connection with a NASCAR event at Watkins Glen, New York, where PSSI was providing C-band service, there was a complete first mile fiber failure. Both NASCAR and NBC Sports, which were providing national distribution of the Watkins Glen race, went completely down. PSSI needed to reroute the program feed via satellite through our uplink truck and then to PSSI's Pittsburgh Teleport in order to feed NBC and NASCAR. This involved a total of 24 signal paths - 12 to NBC and 12 to NASCAR –two full transponders – and something that could only have been done with the C-band. The ACA Connects proposal ignores the importance of redundancy and secure network design that must be fully incorporated into any solution to avoid negatively affecting service quality to millions of American homes. In this example of the Watkins Glen NASCAR race, there would have been no coverage whatsoever without the C-band transportable service provided by PSSI.

11. ACA Connects' argument is essentially that currently the C-band is used inefficiently and thus 370 MHz can be reclaimed. Again, this is an assumption borne of the lack of understanding of the nature of video programming production and distribution, especially as it relates to live events programming. OU events such as the NASCAR event noted above, major sports events like the Major League Baseball World Series and pay-per-view events on demand such as heavyweight title fights (WWE, UFC, etc.) not only require considerable amounts of spectrum for production, but also that PSSI keep quite a bit of spectrum available in reserve – even in those situations where C-band and fiber co-exist as alternative transmission systems. Further, this does not even address the video programmers' contractual obligations with satellite carriers for providing back-up facilities in case of transmission failures, etc., in order to obtain insurance, particularly for live events programming.

12. Further, there is the question of additional satellite capacity. ACA Connects maintains

that no additional satellites need to be launched during the next three years. (ACA Connects July 9th Cartesian Proposal Document, pp. 3, 35). Their plan appears to assume that non- Multi-channel Video Programming Distribution ("MVPD") programming – which they assert can be served with 130 MHz -- can exist on the current on-orbit satellites, while MVPD programming would move to fiber. However, even their own documents concede that not all cable headends will be fibered in 36 months – some will take five years. Thus, all MVPD and non-MVPD programming will be required to be carried for at least five years on satellite.

13. Based upon PSSI's experience, not only is additional satellite capacity needed but also the need is urgent for additional satellite capacity to be launched. Many of the existing satellites providing CONUS coverage are reaching the end of their useful lives. As recently as April 2019, Intelsat suffered a complete loss of its Intelsat 29E satellite.[9]

14. The ACA Connects proposal assumes that the content that must continue during the transition can be transmitted from any of the 24 satellites operating over the U.S. orbital arc. Implementing such an approach potentially would require cable headends to install new antennas pointing to new orbital locations. Not only would this add complexity to an already complex proposal, it would also add time and cost, assuming cable headends have the real estate to host new antennas. The proposal also ignores the fact that any plan that requires satellite-delivered content to move from one frequency (or satellite) to another must allow for up to three months of dual illumination to ensure all earth stations are properly pointed and tuned. Dual illumination means that twice the satellite capacity is needed to deliver the same content during the relevant period, reducing available bandwidth even further.

[9] "Intelsat Reports Intelsat 29e Satellite Failure," Intelsat Press Release (Apr. 19, 2019). http://www.intelsat.com/news/press-release/intelsat-29e-satellite-failure/

15. According to a recent economic analysis by of the broadcasting industry, $1.18 trillion of the annual U.S. Gross Domestic Product (GDP) originates in the local commercial broadcast radio and television industry.[10] This translates to approximately 6% of the GDP of the United States. As Commissioner Rosenworcel noted when the NPRM was adopted, in making its public interest assessment about how to repurpose and how much C-band spectrum to repurpose, "we need to acknowledge that these frequencies are used right now by television and radio broadcasters and cable operators to deliver programming to more than 100 million American households."[11] If adopted, the ACA Connects proposal would cause significant damage to distribution of programming involving 6% of the GDP of the United States.

C. ACA Connects Greatly Underestimates the Time Necessary to Implement its Fiber Transition Plan

16. The ACA Connects proposal is also wholly unrealistic when it comes to the timing in which the transition to fiber as a transmission medium could be accomplished. ACA Connects claims that under its proposal, "Urban markets can be cleared within 18 months, most other markets within 3 years, and certain hard-to-build areas within 5 years." (ACA Connects July 9th Cartesian Proposal Document, p. 11). Further, "[s]imilar to how programmers and MVPDs transport programming via fiber today, they will deploy fiber to interconnect their headends and to peer in major data centers nationwide." (ACA Connects July 9th Cartesian Proposal Document, p. 8). This is demonstrably far too optimistic. Meanwhile, as noted above, customers like ESPN are depending more on C-band for live events coverage, rather than less. Even if it could technically provide a substitute, it is unrealistic to believe that there can be a rollout of the additional fiber in the reasonable future to complete a C-band

[10] "An Analysis of the Importance of Commercial Local Radio and Television Broadcasting to the United States Economy," Woods & Poole Economics, Inc, Washington, D.C. (2017), at pp. 1-2, 7. http://www.nab.org/documents/newsRoom/pdfs/2017_woods_poole.pdf

[11] Separate Statement of Commissioner Jessica Rosenworcel, NPRM, supra, 33 FCC Rcd at 7017.

transition efficiently.

17. First, there is simply the question of the amount of infrastructure that would have to be changed to provide programming feeds by fiber that are currently provided by C-band downlinks. Quick movements of cable headends is very unrealistic, and further disruption to business is inevitable. Clearance of 370 MHz of spectrum within 36 months in not credible, especially without large incentives (separate and apart, as noted in the previous section, from the enormous leap of faith that non-MVPD programming can even exist on only 130 MHz).

18. Even in urban areas, the assertion by ACA Connects that all urban cable headends could be moved off satellite and onto fiber in 18 months is likely too aggressive and not realistic. Indeed, in some cities, it can take more than 18 months to get the permits and rights of way required to lay fiber to cable headends where fiber is not currently available or where diverse and redundant fiber paths are not yet provided.

19. A case point is provided by Alphabet, Inc. and its now abandoned Google Fiber project. Alphabet encountered numerous delays and unexpected costs that ultimately caused it to abandon its Google Fiber high speed fiber project. After deploying to six metro areas in six years, company management announced in late 2016 that it was "pausing" future deployment after initial rollouts proved more expensive and time consuming than anticipated.[12] This occurred notwithstanding that Google Fiber obtained major "administrative efficiencies" in its final list of target cities, "including a single master contract, a sole point of contact in city government, streamlined procedures for permits to install equipment on city-owned property, and permission to dig up city streets to lay conduit. These costs—in dollars, time, and political conflict—had proven to be a major hindrance for network

[12] "Google's High-Speed Web Plans Hit Snags," Wall Street Journal (Aug. 25, 2016).

deployment."[13] It is unrealistic to assume that extensive, geographically diverse fiber deployment could be accomplished to provide video distribution to cable headends in a short period of time; even five years as posited by ACA Connects.

20. In a smartly designed presentation promising the ability to repurpose 370 MHz of the C-band, ACA Connects presents an attractive story. However, not all fairy tales have happy endings. Neither will the ACA Connects proposal if it is adopted. The ACA Connects proposal is dependent upon too many unproven assumptions to risk the current video production and distribution system.

D. Technical Constraints in Filtering Raise Questions about the AT&T Proposal

21. AT&T asserts that the CBA's proposed technical criteria would constrain 5G deployment, and it proposes an alternate band plan to address its concerns. AT&T recommends dividing the 3.7-4.2 GHz band into three segments:

- (1) a largely unrestricted mobile terrestrial 5G segment in the bottom of the band ("Unrestricted Licenses");
- (2) "Adjacent Licenses" in the middle of the band that would have to coordinate with or mitigate impact on Fixed Satellite Service; and
- (3) remaining Fixed Satellite Service spectrum in the top of the band.[14]

22. Under AT&T's proposal. Unrestricted Licenses could operate using full power and would not be obligated to coordinate with Fixed Satellite Service earth stations; Adjacent Licenses would operate using lower power or subject to other limitations or would be obligated to coordinate with nearby Fixed Satellite Service earth stations.[15] AT&T takes issue with the CBA's technical proposal in that it allegedly does not sufficiently account for the fundamental principle that, if

[13] Blair Levin and Larry Downes, "Why Google Fiber Is High-Speed Internet's Most Successful Failure," Harvard Business Review (Sept. 7, 2018).

[14] Ex Parte Letter from AT&T Services, Inc. dated May 23, 2019, at p. 5.

[15] *Id.*

interference mitigation measures are required for the C-band due to adjacent terrestrial mobile and FSS operations, sound spectrum policy dictates that the coordination obligations should apply only to the smallest possible subset of the terrestrial band.[16]

23. As outlined above, even repurposing of 200 MHz will cause difficulties for PSSI's business. PSSI is supportive of whichever approach can retain the maximum amount of C-band spectrum for its current uses. PSSI appreciates that AT&T, among the alternatives to the CBA, has recognized the need to retain a significant amount of the C-band for its current uses and users. However, the Commission should hold the line at 200 MHz of spectrum to be repurposed (or preferably less).

24. Nevertheless, both AT&T and CBA depend on technical fixes to protect incumbent users of the C-band. The key to protection from both in-band and out-of-band interference are the filters being proposed for both 5G terrestrial operators and remaining FSS operators. PSSI explained to the Commission in its May 9, 2019 Ex Parte filing that "There is no filter that can be used on any of the PSSI transportable earth stations that would provide enough rejection of 5G interference in urban areas. As an example, the input power of an LNB (low-noise block downconverter)coming from a satellite having a 40dB EIRP (Equivalent Isotopically Radiated Power) towards earth would be about -150 dB. That is 1x10^16 of a watt. It is likely that 5G power levels at any location in an urban area would exceed this level and could cause catastrophic failure of the LNB as soon as it is powered on." As of this point in time, however, neither the CBA nor AT&T has pointed to a filter solution for C-band transportables.

25. PSSI has begun – but not yet concluded – tests of filters that could protect the Low Noise Amplifier ("LNA") and the LNB components of its transportable antennas. PSSI's initial

[16] *Id.*, p. 4.

conclusion, as reported to the Commission in May 2019, was that "permanent damage can and will occur to any C-band LNB where the LNB input level is greater than -50dBm."[17]

26. PSSI's more recent informal tests involving the LNA element were performed to determine the power level at which any transmit signal from within the 3.7-4.2 GHz band would overdrive the input of a standard LNA to the point of oversaturating the input field effect transistors, rendering the LNA unusable. After conducting the most recent test, we still see a severe impact on our LNAs even when using the filters proposed by the CBA. Worst case, PSSI's 4.5-meter antennas could see an LNA power level exceeding 50dBm in urban areas and 53dBm in Rural areas.[18]

27. PSSI is continuing to work with the CBA to conduct additional full tests, including a 5G generator and antenna authorized by an STA, to assess formally under best test procedures the impact of lower C-band 5G emissions on PSSI's transportable antennas. Unfortunately, these additional tests will not be completed until the end of August, at which time PSSI intends to advise the Commission promptly of the results. However, we take this occasion to note the continuing concern as to whether filtering can protect transportable C-band FSS antennas from permanent damage.

28. Finally, it is important to note that to the extent there will still be an ability to operate C-band transportable antennas after the conclusion of this rulemaking, such operations will continue to depend upon successful frequency coordination. Transportable operators must be able to rely on frequency coordination studies in order to operate interference-free signal downloads at OU event locations.

29. As noted above, AT&T has specified that "Adjacent Licenses would operate using lower power or subject to other limitations or would be obligated to coordinate with nearby Fixed

[17] May 9th Ex Parte, Miceli Declaration, p. 5.

[18] *Id.*

Satellite Service earth stations."[19] This might prove a solution for stationary FSS licenses. However, this will not solve the problem of interference with transportable FSS facilities, which have no fixed geographical location. When a transportable operator like PSSI conducts its interference studies in the future, it will be impossible to coordinate fully as regards new "small wireless cell" transmission sites. As a result of the Commission's decision in the "small wireless cell" proceeding,[20] wireless operators will no longer be required to report to the Commission the location of almost any 5G wireless cell transmitter less than 50 feet overall height. The impact of this decision on C-band FSS frequency coordination studies was an unintended consequence of the small wireless cell rulemaking, but one nonetheless with a substantial impact on future frequency coordination necessary not only to ensure interference free operation but also to prevent core damage from nearby in-band mobile terrestrial operations.

E. Transition Administration

30. The Commission has inquired again whether it should "designate a Transition Administrator or require the creation of a clearinghouse to facilitate the sharing of the costs for mandatory relocation and repacking."[21] This builds on the Commission's original proposal in the NPRM for a Transition Administrator "to coordinate negotiations, clearing, and repacking the band."[22]

31. Recently, the principal issues being debated in this rulemaking have dealt with questions such as the amount of spectrum that could be repurposed, the timing of any repackaging of the C-band, etc., while it would appear that the matter of the Transition Administrator has been set aside. The

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[19] *Public Notice, supra*, at p. 5; AT&T Proposal, at p. 5.

[20] *In re Accelerating Wireless Broadband Deployment by Removing Barriers to Infrastructure Investment (Second Report and Order), 32 FCC Rcd ___, FCC 18-30, released March 30, 2018, appeal pending sub nom. United Keetoowah v. F.C.C.,* Case No. 18-1129.

[21] July 19th Public Notice, *supra*, p. 4.

[22] NRPM, ¶ 70.

Transition Administrator – whatever the repackaging plan that is selected – must provide for meaningful input from users of C-band like PSSI. Thus, as an initial matter, PSSI restates its concern that the management of the Transition Administrator should also include representatives of the existing users of the spectrum like PSSI Global and large-scale users like the media companies.[23]

32. The need for well-coordinated transition will be tremendous and of paramount importance to successful spectrum re-allocation. C-band users have the best understanding of the video distribution and production system, so that their input is necessary to keep the system functioning, particularly during any repurpose and repacking process. Accordingly, C-band users need to be involved in management – not just consultation – of the transition process.

33. Given such problems as potential for in-band interference during the phase in of the repurposing both in the CBA and AT&T repackaging proposals, the Transition Administrator must be able to enforce at an initial level (with ultimate responsibility at the level of the Commission) issues such as interference protection, in addition to managing the repurposing of the C-band and relocation of incumbent C-band users. PSSI has already demonstrated its concerns about interference and the ability of the current state of the proposed filtering, power control, and transmitter set-backs to protect both transportable and FSS antennae. In our May 9th Ex Parte filing, we noted specifically our concern that filters being proposed to protect FSS stations from terrestrial mobile service in the lower band did not work for transportables and had the effect of wiping out the antennae on our satellite trucks. PSSI expresses this concern, too, because we see little attention paid to much simpler interference coordination concerns in C-band that we experience now having to do with WiMAX use, Drone control, and even RFID tags use by the NFL). Hence it is imperative that the Transition Administrator be empowered to resolve issues as they arise during the transition process on such matters between

[23] PSSI Initial Comments, p. 15.

terrestrial mobile and FSS users in the C-band.

F. Conclusion

34. There would appear to be an increased urgency on the part of the Commission to conclude this rulemaking. However, with each proposal submitted – beginning with such plans as the CBA's initial proposal, the proposal by T-Mobile and similar suggestions from wireless interests to force an auction on the band, through and until the more recent ACA Connects proposal – it is evident that repurposing of the C-band is a far more complicated matter than perhaps might have been initially thought. The Commission should take the time to adopt the proposal that causes the least harm to incumbent users of the C-band, who have invested considerable resources to ensure the best video production and distribution possible.

35. Nevertheless, of the possible courses of action advanced in the Public Notice, the adoption of the ACA Connects proposal, assuming it even could realistically be implemented, would have a catastrophic impact on the production and distribution of video programming in the United States and endanger an industry that is a vital part of the American economy. PSSI strongly recommends rejection of the ACA Connects proposal.

36. In addition, there needs to be close attention paid to technical issues such as filtering, power control, and set-backs to prevent interference in the C-band. The future Transition Administrator can play an important role in this process and should involve at a management level not just satellite operators but also C-band users.

Respectfully submitted,

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